



## **Metamorphic evolution of the Toutak complex (Sanandaj-Sirjan Zone, Iran)**

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The Toutak metamorphic Complex, in the southern part of Sanandaj-Sirjan Zone, has been made at the result of metamorphism of both sedimentary and magmatic origins. From bottom to top, this complex is composed of metapelite, metabasite and marble sequences that intruded by a granitoid body. Two phases of metamorphism is identifiable in the region. These rocks are affected by regional metamorphism (M1) reaching to lower amphibolite facies. Four regional metamorphism zones are distinguishable in various rocks includes chlorite, biotite, garnet and staurolite zones from out to core of complex. A dominant ductile deformation has affected the regional metamorphism foliation under green schist facies and has formed a S2 foliation. This is the predominant planar structure in the area and affected the whole of the complex with the same trend (NW-SE) and parallel to Sanandaj-Sirjan Zone as a retrograde metamorphism (M2). The preferred orientation of euhedral feldspars in granitoid body in the core of complex, suggest that shear deformation (D2), was active during crystallization of granitoid and continued under subsolidus conditions. Mylonitic rocks with intense sub-horizontal stretching lineation have kinematic indicators that suggest a dextral shear sense. These features can support dextral transpression for the Neo-Tethys subduction.